On the reading of my preliminary note I demonstrated by visible experiments many of the points of the theory I have advocated, and which I believe explains all conditions of magnetism, and I propose on the reading of this paper to demonstrate experimentally the remaining evidences.

II. "Remarks on the Soundings and Temperatures obtained in the Faeroe Channel during the Summer of 1882." By Staff Commander T. H. Tizard, R.N., H.M.S. "Triton." Communicated by Sir Frederick Evans, K.C.B., F.R.S. Received April 16, 1883.

[Plates 4-8.]

Introduction.—The exploration of the Faeroe Channel commenced by H.M.S. "Lightning," in 1868, under the direction of Dr. Carpenter, F.R.S., the late Sir Wyville Thomson, F.R.S., and Mr. Gwyn Jeffreys, F.R.S., at the instance of the Royal Society,* revealed a remarkable peculiarity, namely, the fact that over one portion of that channel the temperature of the water at the bottom differed 12° to 14° F. from that obtained at similar depths in the other portion, and further investigation by H.M.S. "Porcupine" in 1869 confirmed the observations previously obtained on board the "Lightning."

The cause of this phenomenon appears to have been unsuspected at the time, but during the voyage of H.M.S. "Challenger" several such peculiarities were observed, though not to such a marked extent, and a theory was formed that where differences of bottom temperature existed at equal depths in adjoining areas those areas would probably be found separated by submarine ridges.

Viewing the question on board the "Challenger" from our own observations, combined with those previously obtained in the "Lightning," "Porcupine," and "Shearwater," and with the advantage of Dr. Carpenter's conclusions on oceanic circulation published in the "Proceedings of the Royal Society" for 1869, it seemed to us reasonable to suppose that in those areas where the minimum temperature was found constant from a given depth to the bottom over an area contiguous to another where the temperature decreased as the depth increased, those areas must be separated by a submarine ridge, as then the phenomena might be readily explained. For instance, the condition might arise (*a*) if the minimum temperature was the mean winter temperature of the coldest portion of the separated area, in which case the water at the surface would be flowing in, whilst below it would be flowing out over the submarine ridge, as seems to be the

* See "Proc. Roy. Soc." for 1868.

case with the Mediterranean and Red Seas; or (*b*) the minimum temperature might be that which exists outside the separated area at the lowest part of the submarine ridge, in which case the water would be flowing in at the bottom over the ridge, and out at the surface, as seems to be the case in the Sulu, Celebes, and Banda Seas.

As the voyage of the "Challenger" was devoted to general oceanic research, it was found impracticable to spend much time over particular localities without lengthening the voyage considerably, and consequently there was no opportunity of testing by actual soundings the correctness or otherwise of this theory. This seemed to be practically of very little consequence, as in the Faeroe Channel, close to our own shores, the same phenomenon existed, and a short time devoted to its further exploration would decide whether a submarine ridge there separated the two areas of different bottom temperatures, as was predicted would be the case in No. 7 of the "Challenger" reports published by the Admiralty; for, applying our views to the results obtained in the Faeroe Channel in 1868–69, we concluded that, as in both areas in that channel the temperatures agreed fairly well to a depth of 200 fathoms, whilst at greater depths a marked difference existed, we should find a submarine ridge across the channel with from 200 to 250 fathoms over it, and that as in the cold as well as the warm area the temperature at 200 fathoms exceeded the mean annual temperature of the 60th parallel of latitude, the whole body of the water was moving steadily to the north-eastward over the ridge.

The late Sir Wyville Thomson considered the Faeroe Channel as a test question, and consequently represented to the Hydrographer of the Admiralty (Sir F. J. Evans, R.N., K.C.B., F.R.S.), in 1880, the desirability of despatching a small vessel to obtain some soundings and other observations in this locality. The Hydrographer having recommended this project to the favourable consideration of the Lords Commissioners of the Admiralty, their Lordships sanctioned the small hired surveying vessel "Knight Errant" (employed on the west coasts of the United Kingdom) being sent to the Faeroe Channel, and during the month of August, 1880, a sufficient number of soundings and temperature observations were obtained to show that a submarine ridge existed, though the actual extent of the ridge was not determined. A full account of the results obtained in the "Knight Errant" was published in the "Proceedings of the Royal Society of Edinburgh," session 1881–82.

The existence of a submarine ridge having been ascertained, Sir Wyville Thomson represented to the Royal Society the advisability of more thoroughly investigating it by a series of cross-sections to determine the slopes on each side, and to ascertain with greater exactness the limit of the cold area and the nature of the bottom on this ridge. The Royal Society recommended Sir Wyville's views to the

favourable consideration of the Lords Commissioners of the Admiralty, but their Lordships, whilst agreeing that the exploration of the Faeroe Channel was very important, were unable to spare a vessel for the purpose during the summer of 1881, and, unfortunately, before the end of that year Sir Wyville, whose health had been undermined by exposure to the vicissitudes of climate during the voyage of the "Challenger," succumbed to a severe illness without being able to complete either the report of the voyage of the "Challenger," or the many investigations he had undertaken as bearing more or less on that voyage.

Shortly after the death of Sir Wyville, Mr. John Murray, one of the naturalists of the "Challenger" expedition, was selected to succeed him as the editor of the "Challenger" Reports, and, as he had accompanied the "Knight Errant" in her cruise to the Faeroe Channel in 1880, and was also of opinion that the exploration of that channel bore directly on the results of the voyage of the "Challenger," he again brought before the Royal Society the desirability for further investigating this submarine ridge, and at their instance the Hydrographer, with the sanction of the Lords Commissioners of the Admiralty, directed H.M.S. "Triton" to carry out this work, and Mr. Murray embarked in that vessel to assist in making the necessary observations.

Equipment.—The "Triton" being the surveying vessel newly fitted to take the place of the "Porcupine" on the south and east coasts of the United Kingdom, had every appliance on board necessary for the work, with the exception of dredges, trawls, and dredging line. Some dredges remaining from the stock returned by the "Challenger" were found available, and the Royal Society provided the trawls and necessary rope. All the instruments were of the pattern used in the "Challenger" expedition excepting one deep-sea thermometer which was an improvement on the ordinary type in use by Mr. Buchanan.

Narrative.—The "Triton" arrived at Stornoway on the 25th July, and between that date and the 4th September, made three trips to the Faeroe Channel, each trip being about ten days' duration. Notwithstanding the generally unfavourable condition of the weather experienced, five sectional lines of soundings were obtained across the ridge (which has been named after the late Sir Wyville Thomson), and numerous other soundings between these sectional lines, making a total of 135 soundings, 14 serial temperature soundings, and 17 hauls of the dredge or trawl.* The work of sounding and obtaining temperatures was proceeded with steadily on every occasion when the weather was sufficiently clear to admit of the position of the soundings being ascertained by astronomical observation; during misty or foggy

* See table, plan, and diagrams attached.

weather either the dredge or trawl were usually put out, or the tow nets lowered to such depths as required.

After completing the work in the Faeroe Channel, the vessel left Stornoway for Oban, and from thence proceeded into the Atlantic about 100 miles north-west of Ireland, to test some pressure gauges in connexion with the observations of Professor Tait on the thermometers of the "Challenger," for which purpose Professor Chrystal, of the University of Edinburgh, accompanied the ship on this section of the voyage. The "Triton" finally returned to Glasgow on the 17th September, and then resumed her ordinary surveying work.

The Wyville Thomson ridge.—The soundings obtained in the "Triton," combined with those formerly taken in the "Knight Errant," prove conclusively the existence of a submarine ridge in the Faeroe Channel, extending from the edge of the bank north of Rona Island to the fishing bank to the south-west of the Faeroe Islands. To the north-east of this ridge, the temperature of the water at depths exceeding 350 fathoms is under 32° F., whilst to the south-west of it the temperature at similar depths is above 42° F., excepting in one part, where, for a short distance south-west of the deepest part of the ridge, a drain of the Arctic water is carried across, and is sufficient to cool the bottom water below 40° for a distance of 8 miles from the axis of the ridge.

The general depths over the Wyville Thomson ridge, which is 100 miles in length, by 10 in width, are from 250 to 280 fathoms, with here and there shoaler heads. In one part, however, there is a saddle or gap 7 miles wide, where the depths are from 300 to 330 fathoms. On each side of the ridge the depths increase to 600 fathoms or upwards.

The indications given by the lead as well as the dredge and trawl, show that the Wyville Thomson ridge consists of stones and gravel, whilst to the north-east of the ridge, in the cold area, the bottom is of a hard blue mud, and to the south-west a softer gray mud.

The ridge seems to be a portion of a chain of hills, mostly submerged, which stretch irregularly from the bank off the north-west coast of Scotland to the Faeroe Islands, Iceland, and Greenland, for we know that depths of about 200 fathoms exists between the Faeroe Islands and Iceland, as well as between Iceland and Greenland. As oceanic soundings become more numerous, doubtless many more such chains of submarine elevations will be discovered, for there is reason to believe that the floor of the ocean is not so level as is generally supposed. The absence of mud on the top of the Wyville Thomson ridge may be accounted for by the water flowing over it, washing away all the small particles.

Plans and Diagrams.—To show the position and form of the ridge, a series of diagrams and a plan have been constructed. The plans shows

all the soundings obtained, as well as the position of the five sectional lines across the ridge, and the line of demarcation between the cold and warm areas, for which purpose the isotherm of 40° has been selected as the best distinctive mark. The diagrams show the temperature curves, and a profile of each section exhibiting the form of the ridge, and the distribution of temperature from the surface to the bottom.

The diagrams all appear to point to the same conclusion, thus agreeing with theory, namely, that the water is flowing steadily to the north-east over the ridge. For instance, in Plate 7, Section A, it will be seen that the curves of temperature begin to diverge rapidly below the depth of 170 fathoms, and by referring to Plate 5, Section A, it will be seen that the least depth over the ridge on this section is 120 fathoms. In Plate 7, Section B, it will be seen that the curves taken in the warm area and on the ridge, agree very closely, whilst that taken in the cold area, 10 miles north-east of the shortest cast obtained on this section, 260 fathoms, begins to diverge rapidly at 200 fathoms from the other two curves. In Plate 7, Section C, curves taken in the warm and cold areas are sensibly the same to the depth of 300 fathoms, and a reference to Plate 5, Section C, will show that on this section the least depth found on the ridge was 305 fathoms. In sections B, D, and E, where the least water on the ridge is much the same, the isotherm of 40° on each section at a distance of 10 miles from the axis of the ridge, is found at almost precisely the same depth, viz., 280 fathoms, or the precise depth of the ridge, whereas in Section C, where the depth of the axis of the ridge is 305 fathoms, the isotherm of 40° is found at a depth of 300 fathoms in the cold area, and in Section A, where the depth on the axis of the ridge is 120 fathoms, the isotherm of 40° is at a depth of 250 fathoms in the cold area. The depth then at which the isotherm of 40° is found in the cold area depends on the depth over the ridge. As before mentioned, in the warm area, all the temperatures exceed 40°.

The question then arises, if the water is flowing steadily over the Wyville Thomson ridge to the north-east, how is it the water at the bottom in the cold area retains its low temperature? This has hitherto been very difficult of explanation, as there was apparently no outlet for it over the ridge, and consequently we might expect that its temperature would be influenced by the mass of heated water above; for the excess of inflow in the Faeroe Channel might be altogether absorbed by the outflow, which we know is constantly in progress between Iceland and Greenland. The soundings and temperatures taken this year, however, led to the discovery of a slight outflow of the cold Arctic water over the deepest part of the Wyville Thomson ridge, in the 7-mile gap, which breaks the continuity of the 300 fathom contour-line of soundings. Here the cold water was

traced flowing across the ridge, and gradually increasing in temperature as it moved to the southward, until at a distance of 15 miles from the axis of the ridge, it was of the usual normal temperature of the warm area in that locality.

This outflow of cold water seems to affect all the bottom temperatures to the westward of Section C; for, whilst to the eastward of that section they are from 45° to 46° at depths of 500 fathoms, to the westward they are from 42° to 43°, that is 3° lower.

There is then apparently a regular interchange of the waters across the Wyville Thomson ridge, the Atlantic water flowing north-east into the Arctic basin on the surface, and as far down as the ridge permits, over the greatest portion, whilst over the deepest part of the ridge there is a small outflow of Arctic water into the Atlantic, which although of infinitely less volume than the water moving to the north-east, yet appears to be sufficient to enable the bottom water of the Arctic basin, immediately adjacent to the ridge, to retain its low temperature. Were there no other outlet to the Arctic basin, it is probable the outflow over the ridge at the bottom would equal the inflow at the surface, but, as before remarked, we know the surface water on the western side of the Arctic basin has a steady flow to the southwards along the coast of Greenland.

The existence of the Wyville Thomson ridge in the locality predicted, tends to prove the general correctness of the theory formed in the "Challenger," but farther observations in other localities where the same phenomenon exists, are requisite to determine its absolute correctness, more especially when we remember that in nearly every instance where the bottom temperatures differ materially in adjoining areas, the minimum temperature in one of those areas, the warm, is found at a considerable height from the bottom; whereas in the other area, the cold, the temperature decreases with the depth, the minimum being at the bottom. In the Faeroe Channel, however, the temperature in the warm area decreases as the depth increases, whilst in the cold area it remains almost constant at 30½° F. at depths exceeding 350 fathoms, thus reversing the rule which obtains elsewhere. For instance, in the Mediterranean the temperature of the sea is constant at 55° F. at depths exceeding 100 fathoms, whereas in the Atlantic, the only sea in communication with the Mediterranean, the temperature outside the Straits of Gibraltar decreases as the depth increases. In the Red Sea the temperature is constant at 70° F., at depths exceeding 100 fathoms, whereas in the Indian Ocean it decreases with the depth. In the Sulu Sea the temperature is constant at 50°·5 F. at depths exceeding 400 fathoms, whereas in the adjacent seas the temperature decreases to 39°, and there are also considerable areas in the Atlantic, as well as the Pacific, where a minimum temperature is reached at a certain depth, whilst in adjoining areas the temperature

either decreases to the bottom, or a lower temperature is found at a similar depth. These differences, though slight, give reason for believing that the flow of water from the Antarctic is impeded by submarine ridges. The Arctic water is apparently quite cut off from the general oceanic circulation, excepting at the surface, and to a depth of 200 fathoms.

Tides.—When the weather was favourable, and the dredge or trawl was down, we noticed, more especially in the western part of the Faeroe Channel, a regular tidal set, the greatest strength recorded being three-quarters of a mile per hour. The direction of the tidal stream appeared to vary considerably, and unfortunately our opportunities for observations were few, for, as a rule, the long swell usually experienced entirely masked the tide, the "Triton" being so light, that on almost all occasions when the engines were stopped, even with the trawls down, the normal position was broadside to the swell. The height of the waves usually experienced was from 9 to 12 feet, but waves of 17 feet from trough to summit were not uncommon, and early in September, during a gale, they were recorded as 25 feet from trough to summit.

The highest wave recorded during the voyage of the "Challenger" was 23 feet from trough to summit.

At all times we noticed that the sea was shorter and heavier on the Wyville Thomson ridge than on either side, and sometimes when crossing it we observed peculiar "smooths," as if oil was floating on the surface, or a spring welling up from the bottom. In these smooths the temperature of the water remained unaltered.

Dredgings and Trawlings.—The result of the dredgings and trawlings, as well as of the surface dredgings, by the tow net, will be reported on by Mr. John Murray, who accompanied the "Triton" throughout her exploration of the Faeroe Channel.

Table I.—Soundings obtained in Faeroe Channel by H.M.S. "Triton," August, 1882.

No. of sounding.	Date.	Hour.	Position.		Depth in fathoms.	Nature of bottom.	Bottom temperature.		Remarks.
			Lat. N.	Long. W.			No. of therm.	Result.	
			° ′ ″	° ′ ″				°	
1	Aug. 4th	11.0 A.M.	59 34 30	6 36 30	200	Sand	B	49·3	Serial temperatures. See Table II No. 13
							0·5	49·3	
2	,,	Noon	59 36 30	6 32 30	157	Sand	B	49·6	
							0·5	50·0	
3	,,	0.50 P.M.	59 38 41	6 28 0	143	Sand	B	49·8	
							0·5	50·0	
4	,,	1.40 ,,	59 40 56	6 23 15	129	Sand	B	50·0	
							0·5	50·0	
5	,,	2.25 ,,	59 43 11	6 18 30	116	Sand	B	50·0	
							0·5	50·0	
6	,,	3.7 ,,	59 45 22	6 14 3	145	Sand	B	50·0	
							0·5	50·5	
7	,,	3.47 ,,	59 47 30	6 9 30	173	Sand	B	49·9	
							0·5	49·8	
8	,,	5.0 ,,	59 48 30	6 21 0	190	Sand	B	49·5	
							0·5	49·5	
9	,,	5.45 ,,	59 51 30	6 21 0	240	Sand and gravel	B	47·6	Dredging station.
							0·5	47·5	
10	Aug. 5th	6.0 A.M.	59 43 0	6 40 0	300	Sand	B	48·7	
							0·5	48·0	
11	,,	10.0 ,,	59 37 30	6 49 0	530	Mud	B	46·2	Trawling station.
							0·5	46·2	
12	Aug. 7th	4.30 ,,	60 23 15	8 58 0	230	Stones	B	45·4	
							0·5	42·2	

No. of sounding.	Date.	Hour.	Position.		Depth in fathoms.	Nature of bottom.	Bottom temperature.		Remarks.
			Lat. N.	Lat. W.			No. of therm.	Result.	
			° ′ ″	° ′ ″				°	
13	Aug. 7th	5.20 A.M.	60 25 30	9 1 0	199	Sand and stones	B	47·1	
							0·5	46·7	
14	,,	6.10 ,,	60 28 0	9 4 0	165	Sand and stones	B	47·2	
							0·5	47·5	
15	,,	7.0 ,,	60 31 0	9 7 0	158	Sand and stones	B	47·5	
							0·5	47·5	
16	,,	7.45 ,,	60 33 15	9 10 0	147	Sand	B	48·5	
							0·5	46·0	
17	,,	8.30 ,,	60 35 30	9 13 0	116	Sand and stones	B	48·2	
							0·5	48·0	
18	,,	9.5 ,,	60 37 50	9 16 0	117	Fine sand	B	49·0	
							0·5	48·8	
19	,,	10.0 ,,	60 40 0	9 8 0	91	Fine sand	B	50·1	
							0·5	49·8	
20	,,	11.0 ,,	60 40 40	8 56 15	81	Fine sand	B	49·8	
							0·5	49·5	
21	,,	Noon	60 41 14	8 45 0	77	Stones and shells	B	50·0	
							0·5	49·5	
22	,,	0.40 P.M.	60 41 30	8 37 30	98	Stones and shells	B	49·5	
							0·5	48·5	
23	,,	1.16 ,,	60 38 40	8 34 0	130	Hard ground	B	48·5	
							0·5	47·7	
24	,,	1.57 ,,	60 36 10	8 31 0	205	Hard ground	B	46·8	
							0·5	46·4	
25	,,	2.40 ,,	60 33 40	8 27 30	290	Gravel	B	39·8	
							0·5	38·8	

No. of sounding.	Date.	Hour.	Position.		Depth in fathoms.	Nature of bottom.	Bottom temperature.		Remarks.
			Lat. N.	Long. W.			No. of therm.	Result.	
			° ′ ″	° ′ ″				°	
26	Aug. 7th	3.32 P.M.	60 31 30	8 29 30	268	Gravel	B	45·4	
							0·5	44·8	
27	,,	4.20 ,,	60 29 14	8 30 0	320	Mud	B	36·4	
							0·5	36·4	
28	,,	5.10 ,,	60 29 14	8 23 30	365	Mud	B	31·8	
							0·5	31·8	
29	,,	6.40 ,,	60 26 0	8 33 0	261	Stones and shells	B	43·0	
							0·5	42·5	
30	,,	7.30 ,,	60 24 30	8 37 0	215	Stones and shells	B	47·3	
							0·5	46·5	
31	,,	8.15 ,,	60 23 0	8 41 0	205	Fine sand	B	47·5	
							0·5	47·0	
32	Aug. 8th	4.35 A.M.	60 39 30	9 6 0	87	Sand and shells	B	49·5	Trawling station.
							0·5	49·0	
33	,,	8.45 ,,	60 39 30	8 55 45	80	Stones and shells	B	47·8	Serial temperatures. See Table II, No. 14.
							0·5	48·0	
34	,,	9.40 ,,	60 37 0	8 53 30	100	Hard ground	B	49·6	
							0·5	48·2	
35	,,	10.20 ,,	60 34 20	8 51 0	124	Hard ground	B	49·1	
							0·5	47·8	
36	,,	11.0 ,,	60 31 45	8 47 45	129	Hard ground	B	48·4	
							0·5	48·5	
37	,,	11.41 ,,	60 29 0	8 43 45	175	Hard ground	B	47·8	
							0·5	46·8	
38	,,	0.25 P.M.	60 25 45	8 41 0	220	Sand and shells	B	47·4	
							0·5	46·8	

No. of sounding.	Date.	Hour.	Position.		Depth in fathoms.	Nature of bottom.	Bottom temperature.		Remarks.
			Lat. N.	Long. W.			No. of therm.	Result.	
			° ′ ″	° ′ ″					
39	Aug. 8th	1.15 P.M.	60 23 0	8 38 15	256	Sand and gravel	B 0·5	46°·5 45·5	
40	„	2.5 „	60 20 30	8 36 0	267	Sand and gravel	B 0·5	47·2 46·8	
41	„	3.0 „	60 17 15	8 32 0	423	Stones	B 0·5	42·5 41·6	Serial temperatures. See Table II, No. 12.
42	„	4.35 „	60 19 20	8 27 15	305	Gravel	B 0·5	43·5 41·0	
43	„	5.20 „	60 21 0	8 23 30	280	Stones	B 0·5	37·5 37·0	
44	„	5.50 „	60 20 15	8 25 30	285	Gravel	B 0·5	35·8 35·5	
45	„	6.45 „	60 22 40	8 21 0	327	Stones	B 0·5	32·0 31·5	Serial temperatures and trawling station. See Table II, No. 11.
46	Aug. 9th	7.45 A.M.	60 31 15	8 14 0	430	Mud	B 0·5	30·5 30·0	Serial temperatures. See Table II, No. 9.
47	„	10.0 „	60 28 15	8 15 30	407	Mud	B 39,973	30·8 35·5	Result shown by No. 39,973. Thermometer rejected.
48	„	11.0 „	60 25 0	8 14 0	385	Mud	B 94	30·5 32·5	
49	„	Noon.	60 21 35	8 13 0	299	Sand and stones	B 94	34·2 34·1	
50	„	0.40 P.M.	60 19 30	8 12 0	268	Sand and gravel	B 94	44·5 44·8	
51	„	1.20 „	60 17 0	8 10 45	285	Sand and gravel	B 94	43·0 43·8	

No. of sounding.	Date.	Hour.	Position.		Depth in fathoms.	Nature of bottom.	Bottom temperature.		Remarks.
			Lat. N.	Long. W.			No. of therm.	Result.	
			° ′ ″	° ′ ″					
52	Aug. 9th	2.2 P.M.	60 14 45	8 9 45	306	Stones	B	43°·8	
							94	44·2	
53	,,	3.0 ,,	60 12 0	8 7 50	353	Hard ground	B	44·5	
							94	45·0	
54	,,	4.0 ,,	60 8 25	8 5 30	458	Globigerina ooze	B	42·7	Serial temperatures. See Table II, No. 10.
							94	42·8	
55	,,	6.15 ,,	60 11 45	8 15 0	433	Hard ground	B	43·5	Trawling station.
							94	43·5	
56	Aug. 10th	6.0 A.M.	60 20 15	8 8 0	285	Stones	B	40·8	
							94	40·8	
57	,,	7.0 ,,	60 23 0	8 6 0	390	Stone	B	31·0	
							94	31·0	
58	Aug. 16th	9.0 ,,	59 39 0	6 43 0	435	Sand	B	47·5	Serial temperatures. See Table II, No. 1.
							94	49·2	
59	,,	11.0 ,,	59 41 15	6 38 15	242	Gravel	B	49·2	
							XXIII	50·0	
60	,,	Noon	59 43 15	6 34 0	162	Sand and shells	B	49·4	
							XXIII	50·2	
61	,,	0.40 P.M.	59 45 30	6 30 0	120	Sand and gravel	B	49·5	
							XXIII	50·6	
62	,,	1.25 ,,	59 47 30	6 26 0	163	Mud, sand, and shells	B	49·2	
							XXIII	50·0	
63	,,	2.11 ,,	59 49 30	6 21 30	222	Sand and gravel	B	49·2	
							XXIII	50·0	
64	,,	3.0 ,,	59 51 45	6 17 45	240	Sand and gravel	B	47·7	
							XXIII	48·7	

No of sounding.	Date.	Hour.	Position.		Depth in fathoms.	Nature of bottom.	Bottom temperature.		Remarks.
			Lat. N.	Long. W.			No. of therm.	Result.	
			° ′ ″	° ′ ″					
65	Aug. 16th	3.50 P.M.	59 53 45	6 13 0	285	Sand and gravel	B XXIII	33·0 34·0	
66	,,	4.45 ,,	59 56 15	6 8 0	313	Sand and gravel	B XXIII	33·5 32·5	Serial temperatures. See Table II, No. 2.
67	Aug. 17th	5.15 A.M.	60 7 40	6 44 0	630	Mud, sand, and stones	B XXIII	30·4 30·8	Serial temperatures. See Table II, No. 3.
68	,,	7.30 ,,	60 5 0	6 49 30	455	Sand and gravel	B XXIII	30·3 30·5	
69	,,	8.30 ,,	60 3 0	6 54 0	359	Sand and gravel	B XXIII	30·5 30·0	
70	,,	9.25 ,,	60 1 0	6 58 30	260	Sand and gravel	B XXIII	46·8 47·0	Serial temperatures. See Table II, No. 4.
71	,,	11.0 ,,	59 58 45	7 3 0	262	Sand and gravel	B XXIII	47·5 47·5	
72	,,	Noon	59 56 20	7 8 0	330	Sand and gravel	B XXIII	47·0 47·4	
73	,,	0.45 P.M.	59 54 10	7 12 50	409	Ooze	B XXIII	47·0 47·0	Serial temperatures. See Table II, No. 5.
74	,,	3.5 ,,	60 0 45	7 16 0	246	Ooze	B XXIII	46·5 46·5	
75	,,	4.5 ,,	60 3 10	7 11 30	295	Sand and stone	B XXIII	38·7 38·5	
76	,,	5.0 ,,	60 5 30	7 8 0	375	Sand and stone	B XXIII	30·5 30·0	
77	,,	6.20 ,,	60 9 0	7 16 30	466	Stones	B XXIII	30·0 29·5	Dredging station.

No. of sounding.	Date.	Hour.	Position.		Depth in fathoms.	Nature of bottom.	Bottom temperature.		Remarks.
			Lat. N.	Long. W.			No. of therm.	Result.	
			° ′ ″	° ′ ″					
78	Aug. 18th	7.45 A.M.	60 7 0	7 16 0	285	Sand and stones	B	47°·0	
							XXIII	46·0	
79	,,	8.35 ,,	60 6 0	7 19 0	259	Sand and gravel	B	47·4	
							XXIII	47·8	
80	,,	9.25 ,,	60 5 0	7 23 45	263	Gravel	B	47·5	
							XXIII	48·0	
81	,,	10·35 ,,	60 9 0	7 26 0	270	Gravel	B	47·2	
							XXIII	47·5	
82	,,	Noon	60 9 40	7 32 0	299	Gravel	B	47·0	
							XXIII	47·5	
83	,,	0.40 P.M.	60 12 40	7 26 0	359	Stones	B	31·8	
							XXIII	30·5	
84	,,	1.30 ,,	60 11 50	7 28 0	305	Sand and gravel	B	46·0	
							XXIII	46·5	
85	,,	2.8 ,,	60 11 10	7 30 0	285	Sand	B	46·4	
							XXIII	46·5	
86	,,	3.6 ,,	60 10 0	7 33 45	315	Stones	B	46·7	
							XXIII	46·9	
87	,,	4.40 ,,	60 12 0	7 42 30	319	Stones	B	31·2	
							XXIII	30·5	
88	,,	5.21 ,,	60 11 10	7 44 50	315	Stones	B	32·0	
							XXIII	31·0	
89	,,	6.0 ,,	60 10 30	7 47 15	305	Sand and stones	B	30·5	
							XXIII	32·7	
90	,,	6.40 ,,	60 9 20	7 50 0	315	Sand and stones	B	33·0	
							XXIII	31·5	

No. of sounding.	Date.	Hour.	Position.		Depth in fathoms.	Nature of bottom.	Bottom temperature.		Remarks.
			Lat. N.	Long. W.			No. of therm.	Results.	
			° ′ ″	° ′ ″					
91	Aug. 18th	7.15 P.M.	60 8 30	7 52 0	336	Sand and stones	B	31°·8	
							XXIII	31·0	
92	„	8.0 „	60 8 0	7 54 0	370	Gravel	B	35·0	
							XXIII	33·2	
93	Aug. 19th	4.30 A.M.	60 2 0	8 11 0	450	Mud	B	45·0	Serial temperatures. See Table II, No. 6.
							XXIII	44·5	Lost B. thermometer.
94	„	6.35 „	60 4 0	8 6 0	450	Sand	0·5	41·7	
							XXIII	42·0	
95	„	7.40 „	60 6 0	8 1 30	455	Mud	0·5	39·0	Temperature at 435 fathoms, 44°·5 by 0·6 thermometer.
							XXIII	39·0	
96	„	8.40 „	60 7 30	7 57 0	485	Gravel	0·5	38·0	Temperature at 465 fathoms. 41°·0 by 0·6 thermometer.
							XXIII	38·0	
97	„	10.14 „	60 12 20	7 44 0	328	Mud and stones	0·5	30·5	Serial temperatures. See Table II, No. 7.
							XXIII	30·3	
98	„	0.45 P.M.	60 15 20	7 30 0	396	Gravel	0·5	30·2	Serial temperatures. See Table II, No. 8.
							XXIII	30·2	
99	„	3.30 „	60 18 0	7 38 0	440	Gravel	0·5	30·0	
							XXIII	30·0	
100	„	5.0 „	60 19 27	7 50 15	437	Mud	0·5	29·8	
							XXIII	30·0	
101	„	6.0 „	60 17 30	7 54 30	380	Sand and stones	0·5	30·0	
							XXIII	30·2	
102	„	7.0 „	60 15 0	7 59 0	289	Gravel	0·5	31·8	
							XXIII	31·0	
103	„	7.40 „	60 13 35	8 2 0	276	Sand and gravel	0·5	32·0	
							XXIII	31·2	

No. of sounding.	Date.	Hour.	Position.		Depth in fathoms.	Nature of bottom.	Bottom temperature.		Remarks.
			Lat. N.	Long. W.			No. of therm.	Result.	
			° ′ ″	° ′ ″					
104	Aug. 21st	7.45 A.M.	60 21 0	7 4 0	432	Hard ground	0·5	30°·7	
							XXIII	30·5	
105	,,	9.20 ,,	60 19 0	7 10 0	585	Hard ground	0·5	30·5	Dredging station.
							XXIII	29·9	
106	Aug. 22nd	4.40 ,,	60 18 0	6 15 0	640	Mud	0·5	30·0	Trawling station; two hauls.
							XXIII	30 0	
107	Aug. 23rd	4.30 ,,	60 5 0	6 21 0	608	Mud	0·5	30 0	Trawling station.
							XXIII	30·0	
108	,,	0.30 P.M.	59 59 45	6 19 0	235	Gravel	0·5	46·5	
							XXIII	50·0	
109	,,	1.20 ,,	59 57 50	6 23 0	195	Gravel	0·5	47·0	
							XXIII	49·8	
110	,,	2.15 ,,	59 55 0	6 28 0	187	Gravel	0·5	47·2	
							XXIII	49·0	
111	,,	3.10 ,,	59 52 30	6 34 0	350	Hard ground	0·5	47·2	
							XXIII	49·0	
112	,,	4.5 ,,	59 50 10	6 37 0	474	Gravel	0·5	47·0	
							XXIII	47·5	
113	,,	5.30 ,,	59 54 40	6 41 0	306	Gravel	0·5	48·5	
							XXIII	49·0	
114	,,	6.20 ,,	59 57 30	6 38 45	175	Gravel	0·5	48·0	
							XXIII	48·0	
115	,,	7.0 ,,	60 0 0	6 37 30	187	Gravel	0·5	48·0	
							XXIII	48·0	
116	,,	7.45 ,,	60 2 30	6 35 0	250	Gravel	0·5	46·5	
							XXIII	47·0	
117	,,	8.20 ,,	60 4 20	6 34 0	424	Gravel	XXIII	29·6	

No. of sounding.	Date.	Hour.	Position.		Depth in fathoms.	Nature of bottom.	Bottom temperature.		Remarks.
			Lat. N.	Long. W.			No. of therm.	Result.	
			° ′ ″	° ′ ″					
118	Aug. 24th	5.0 A.M.	59 40 0	7 21 0	516	Mud	0·5	46°·0	Trawling station.
							XXIII	46·5	
119	Aug. 28th	6.0 „	59 21 30	7 4 0	415	Mud	0·5	46·9	
							XXIII	46·9	
120	„	8.0 „	59 29 30	7 13 0	555	Ooze	0·5	45·5	Trawling and dredging station.
							XXIII	45·5	
121	Aug. 29th	5.0 „	59 58 15	7 28 45	305	Mud	0·5	47·0	
							XXIII	47·3	
122	„	5.55 „	59 59 50	7 25 30	310	Mud	0·5	47·4	
							XXIII	47·4	
123	„	6.55 „	60 1 50	7 20 45	262	Gravel	0·5	45·5	
							XXIII	45·5	
124	„	7.45 „	60 3 45	7 25 30	258	Gravel	0·5	44·5	Temperature at 240 fathoms, 47° by 0·6 thermometer.
							XXIII	44·5	
125	„	8.40 „	60 5 30	7 29 30	258	Mud and gravel	0·5	44·0	Temperature at 240 fathoms, 46°·5 by 0·6 thermometer.
							XXIII	43·8	
126	„	9.35 „	60 7 0	7 33 45	260	Gravel	0·5	44·9	Temperature at 240 fathoms, 46°·9 by 0·6 thermometer.
							XXIII	45·6	
127	„	10.28 „	60 8 20	7 38 45	278	Gravel	0·5	44·6	Temperature at 260 fathoms, 46°·2 by 0·6 thermometer.
							XXIII	44·4	
128	„	11.26 „	60 10 30	7 43 0	285	Sand and gravel	0·5	44·7	Temperature at 265 fathoms, 48° by 0·6 thermometer.
							XXIII	44·5	
129	„	0.25 P.M.	60 12 20	7 48 0	335	Gravel	0·5	41·2	Temperature at 315 fathoms, 43°·5 by 0·6 thermometer.
							XXIII	41·2	
130	„	1.25 „	60 13 50	7 52 0	322	Sand	0·5	31·0	
							XXIII	31·0	

No. of sounding.	Date.	Hour.	Position.		Depth in fathoms.	Nature of bottom.	Bottom temperature.		Remarks.
			Lat. N.	Long. W.			No. of therm.	Result.	
			° ′ ″	° ′ ″				°	
131	Aug. 29th	2.20 P.M.	60 12 30	7 55 15	325	Sand	0·5	31·0	Temperature at 305 fathoms, 33°·0 by 39,973 thermometer.
							XXIII	30·2	
132	,,	4.5 ,,	60 8 0	7 44 20	319	Mud	0·5	46·0	Temperature at 300 fathoms, 50° by 39,973 thermometer.
							XXIII	46·0	
133	,,	5.10 ,,	60 10 30	7 39 0	305	Gravel	0·5	42·0	
							XXIII	42·0	
134	Aug. 30th	5.45 A.M.	60 31 0	7 34 0	580	Mud	0·5	31·0	Trawling station; two hauls.
							XXIII	31·0	
135	Aug. 31st	5.0 ,,	59 51 20	8 18 0	570	Ooze	0·5	45·7	Trawling and dredging stations.
							XXIII	45·7	
Soundings obtained in North Atlantic, North-West of Ireland.									
1	Sept. 13th	Noon	55 37 0	11 21 0	1360	Ooze	0·1	37·5	Temperature at 800 fathoms, 39°·9; at 500 fathoms, 46°·6.
							0·5	36·8	
2	,,	2.30 P.M.	55 37 0	11 16 0	1345	Ooze	..	..	

Table II.—Serial Temperatures obtained in Faeroe Channel by H.M.S. "Triton," August, 1882.

No. 1. No. of sounding 58. Section A. Warm area.
Lat. 59° 39′ 0″ N. Long. 6° 43′ 0″ W.

Depth in fathoms.	Distinguishing mark of thermometer.	Reading.	Temperature by curve, diagram No. 1.
Surface	..	57° 0′	57°·0
10	0·5	55 5	55 ·9
20	X	55 0	55 ·3
30	0·6	55 0	54 ·8
40	B	54 2	53 ·5
50	XXIII	50 0	50 ·1
	XXIII bis	50 0	
100	I	49 8	50 ·1
150	94	50 5	50 ·1
200	A 11	46 0	50 ·1
250	0·6	50 5	50 ·0
300	X	48 8	49 ·4
350	83	55 0	48 ·6
400	B	47 5	47 ·9
435	B	47 5	47 ·5
	94	49 2	

No. 2. No. of sounding 66. Section A. Cold area.
Lat. 59° 56′ 15″ N. Long. 6° 8′ 0″ W.

Depth in fathoms.	Distinguishing mark of thermometer.	Reading.	Temperature by curve, diagram No. 1.
Surface	..	56° 4′	56°·4
10	B	54 0	54 ·1
	41,054	50 0	
	41,049	48 0	
20	B	53 0	52 ·5
	41,054	50 5	
	41,051	48 0	
30	B	51 5	51 ·5
	41,051	49 0	
40	B	51 2	50 ·9
50	A 19	50 8	50 ·4
	41,049	50 0	
100	I	49 2	49 ·8
	41,054	50 1	
150	X	46 8	49 ·4
	41,051	52 1	
200	B	47 0	47 ·3
	0·5	46 8	
220	41,049	48 8	45 ·8
240	41,054	43 5	43 ·5
260	41,051	37 5	37 ·8
280	39,973	41 0	35 ·5
300	B	34 2	34 ·0
313	B	33 5	33 ·0
	XXIII	32 5	

No. 3. No. of sounding 67. Section B. Cold area.
Lat. 60° 7′ 40″ N. Long. 6° 44′ 00″ W.

Depth in fathoms.	Distinguishing mark of thermometer.	Reading.	Temperature by curve, diagram No. 2.
Surface	..	54° 5	54°·5
10	0·6	53 0	53·0
20	0·1	51 5	51·3
30	0·5	49 8	50·1
40	XXIII	49 4	49·4
50	B	49 2	49·0
	X	48 8	
100	A 19	48 8	48·7
150	41,049	48 2	48·1
200	41,054	47 4	47·5
220	0·6	46 0	46·0
240	0·1	43 5	43·7
260	0·5	41 8	41·7
280	XIII	40 0	39·7
300	B	37 6	37·7
630	B	30 4	30·6
	XXIII	30 8	

No. 4. No. of sounding 70. Section B, on the ridge.
Lat. 60° 1′ 0″ N. Long. 6° 58′ 30″ W.

Depth in fathoms.	Distinguishing mark of thermometer.	Reading.	Temperature by curve, diagram No. 1.
Surface	..	55°·0	55°·0
10	0·1	54·0	53·9
20	0·5	53·0	52·8
30	XXIII	51·8	51·7
40	B	51·5	50·6
50	41,049	49·2	49·5
100	41,054	47·5	48·6
150	0·6	48·5	48·4
180	0·1	47·8	48·0
200	0·5	47·3	47·8
220	XXIII	47·8	47·6
240	B	47·2	47·3
260	XXIII	47·0	47·0
	B	46·8	

No. 5. No. of sounding 73. Section B. Warm area.
Lat. 59° 54′ 10″ N. Long. 7° 12′ 50″ W.

Depth in fathoms.	Distinguishing mark of thermometer.	Reading.	Temperature by curve, diagram No. 2.
Surface	..	55°·5	55°·5
10	0·1	54·0	54·5
20	0·5	53·0	53·4
30	XXIII	53·0	52·3
40	B	51·0	51·2
50	41,049	50·8	50·2
100	41,054	48·8	48·8
150	0·6	48·8	48·5
200	0·1	48·1	48·2
250	0·5	47·2	47·9
300	XXIII	48·2	47·6
350	B	47·2	47·3
409	B	47·0	47·0
	XXIII	47·0	

No. 6. No. of sounding 93. Section C. Warm area.
Lat. 60° 2′ 0″ N. Long. 8° 11′ 0″ W.

Depth in fathoms.	Distinguishing mark of thermometer.	Reading.	Temperature by curve, diagram No. 3.
Surface	..	54°·6	54°·6
10	0·6	53·0	53·1
20	0·1	53·0	52·2
30	0·5	51·2	51·3
40	XXIII	50·8	50·5
50	A 19	50·2	50·1
100	41,049	48·8	48·8
150	41,054	47·5	48·2
200	0·6	49·0	48·0
250	0·1	47·0	48·0
300	0·5	46·5	47·6
350	XXIII	48·0	46·9
400	B	lost	45·9
450	B	45·0	44·7
	XXIII	44·5	

No. 7. No. of sounding 97. Section C, on the ridge.
Lat. 60° 12′ 20″ N. Long. 7° 44′ 0″ W.

Depth in fathoms.	Distinguishing mark of thermometer.	Reading.	Temperature by curve, diagram No. 3.
Surface	..	55°·4	55°·4
10	41,054	53·5	53·6
20	XI	52·5	52·3
30	X	50·0	51·0
40	0·1	49·6	50·0
50	0·6	49·7	49·0
	A 25	48·2	
100	0·5	48·0	48·4
	83	47·5	
150	XXIII	48·0	48·4
200	41,054	49·0	48·4
220	0·6	49·0	48·4
240	0·1	47·5	48·2
260	X	48·0	47·8
280	0·5	46·8	46·4
300	XXIII	42·0	41·8
328	0·5	30·5	30·4
	XXIII	30·3	

No. 8. No. of sounding 98. Section C. Cold area.
Lat. 60° 15′ 20″ N. Long. 7° 30′ 0″ W.

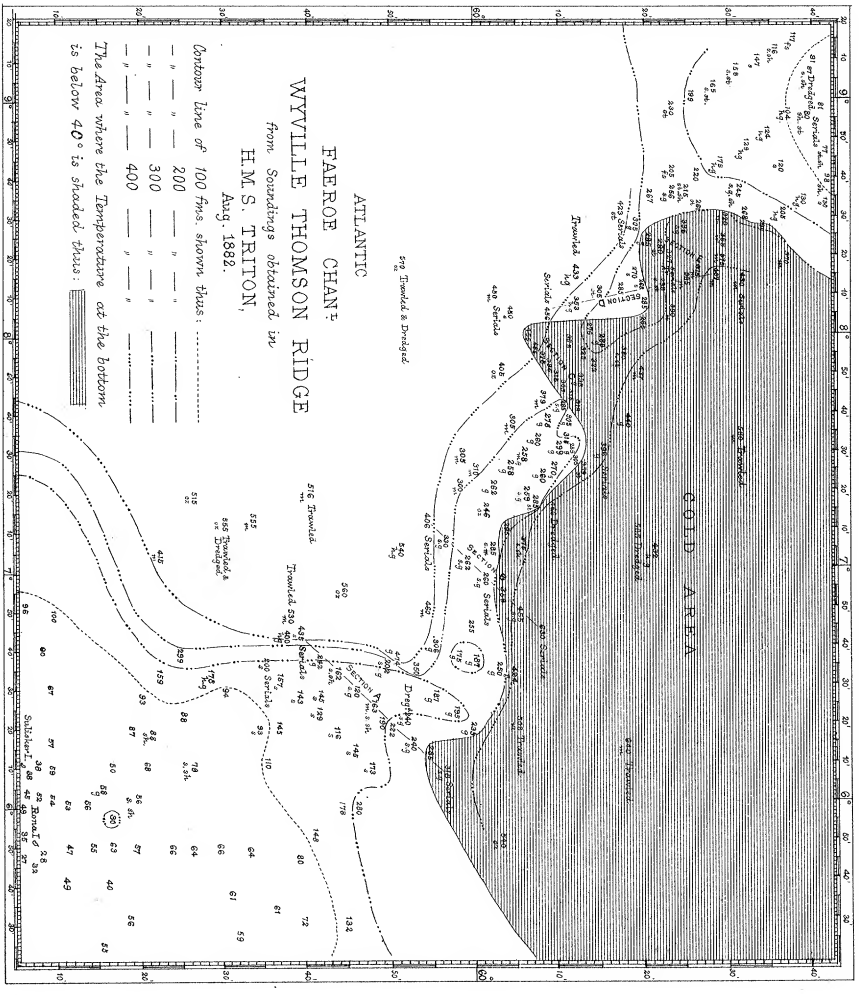
Depth in fathoms.	Distinguishing mark of thermometer.	Reading.	Temperature by curve, diagram No. 3.
Surface	..	55°·8	55°·8
10	X	52·5	52·3
20	41,051	51·0	51·0
30	A 8	49·2	50·0
40	41,054	49·0	49·1
50	41,051	49·0	48·7
	A 18	49·0	
100	A 8	46·0	48·0
	A 25	48·0	
150	41,054	50·2	47·7
	0·1	47·2	
200	XI	47·5	47·5
220	X	48·8	47·4
240	0·1	47·0	47·3
260	0·6	47·5	47·2
280	0·5	47·2	47·0
300	XXIII	47·0	46·9
320	0·6	39·0	39·0
340	0·5	31·5	31·9
360	XXIII	30·5	30·5
396	0·5	30·2	30·2
	XXIII	30·2	

No. 9. No. of sounding 46. Sections D and E. Cold area.
Lat. 60° 31′ 15″ N. Long. 8° 14′ 0″ W.

Depth in fathoms.	Distinguishing mark of thermometer.	Reading.	Temperature by curve, diagram No. 4.
Surface	..	55°·0	55°·0
50	A 16	52·2	52·0
100	A 25	49·0	49·2
150	A 18	48·8	49·2
200	A 19	49·2	49·2
	41,051	50·5	
	A 18	51·0	
220	A 11	51·0	49·2
	41,054	52·0	
	44,565	53·0	
240	VIII	52·5	49·2
	44,558	48·0	
	41,051	49·2	
260	I/V	52·5	45·4
	44,565	51·5	
	41,054	45·0	
280	0·5	30·2	39·0
	39,973	44·0	
	39,973	39·5	
300	B	33·2	32·4
	B bis	32·0	
	B bis	36·0	
430	B	30·5	30·2
	0·5	30·0	

No. 10. No. of sounding 54. Section D. Warm area.
Lat. 60° 8′ 25″ N. Long. 8° 5′ 30″ W.

Depth in fathoms.	Distinguishing mark of thermometer.	Reading.	Temperature by curve, diagram No. 4.
Surface	..	55°·2	55°·2
50	0·5	49·0	49·0
100	I	48·8	48·8
150	83	48·5	48·8
200	10	48·8	48·8
250	XXIII	48·8	48·8
300	0·6	49·0	48·8
350	94	47·8	48·0
400	B	43·5	43·5
458	B	42·7	42·8
	94	42·8	

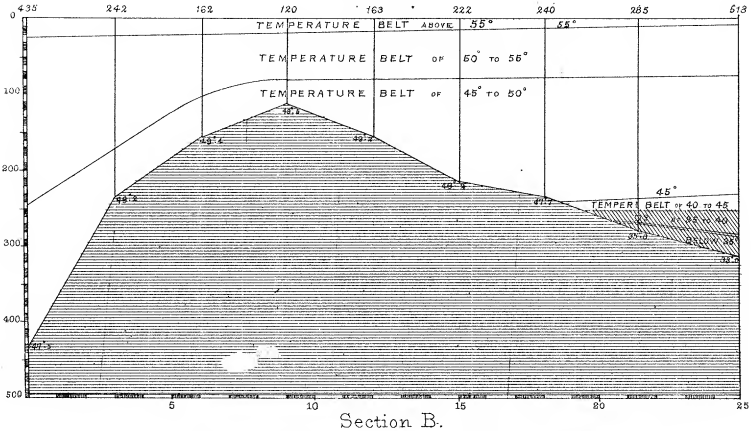

ATLANTIC
FAEROE CHANL
WYVILLE THOMSON RIDGE
from Soundings obtained in
H.M.S. TRITON,
Aug. 1882.
Contour lines of 100 fms. shown thus: .....
" " — " " 200 — " " —
" " — " " 300 — " " —
" " — " " 400 — " " —
The Area where the Temperature at the bottom is below 40° is shaded thus:
COLD AREA

SECTIONS OF WYVILLE THOMSON RIDGE, FAEROE CHANNEL

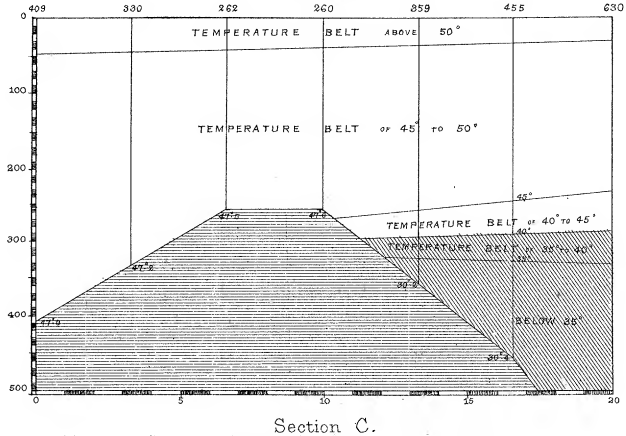
Obtained by H. M. S. TRITON, August 1882.

showing the distribution of the temperature from the Surface to the Bottom.

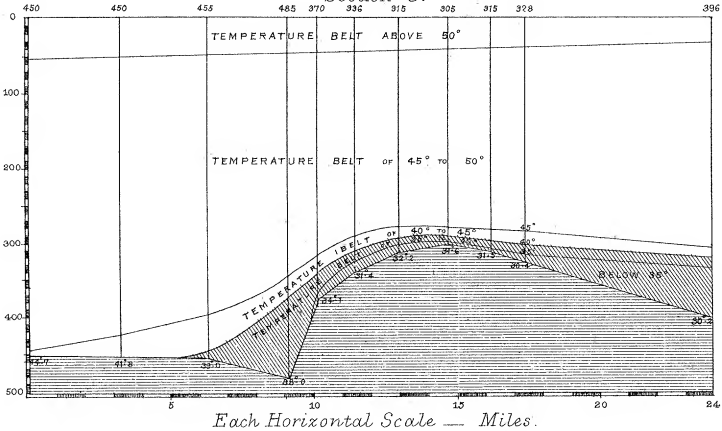
Section A.



Section B.



Section C.



Each Horizontal Scale — Miles.

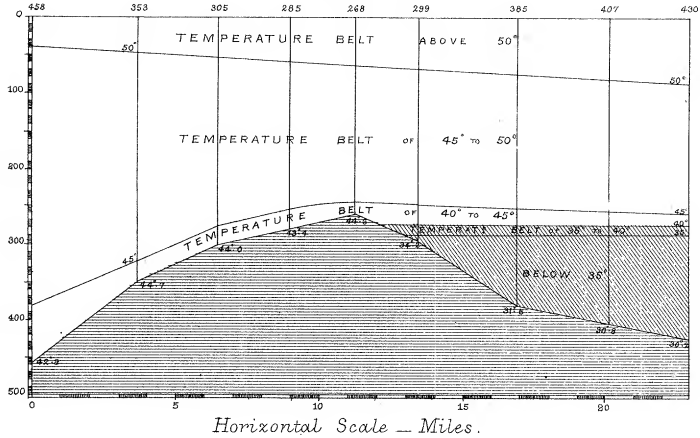
West Newman & Co sc.

SECTIONS OF WYVILLE THOMSON RIDGE, FAEROE CHANNEL

Obtained by H.M.S. TRITON, *August 1882.*

showing the distribution of the temperature from the Surface to the Bottom

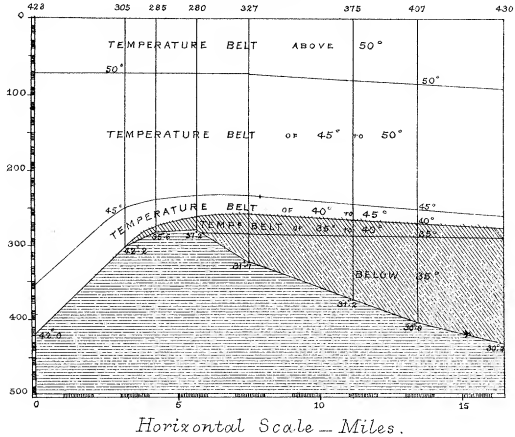
Section D.



Horizontal Scale — Miles.

Vertical Scale Fathoms

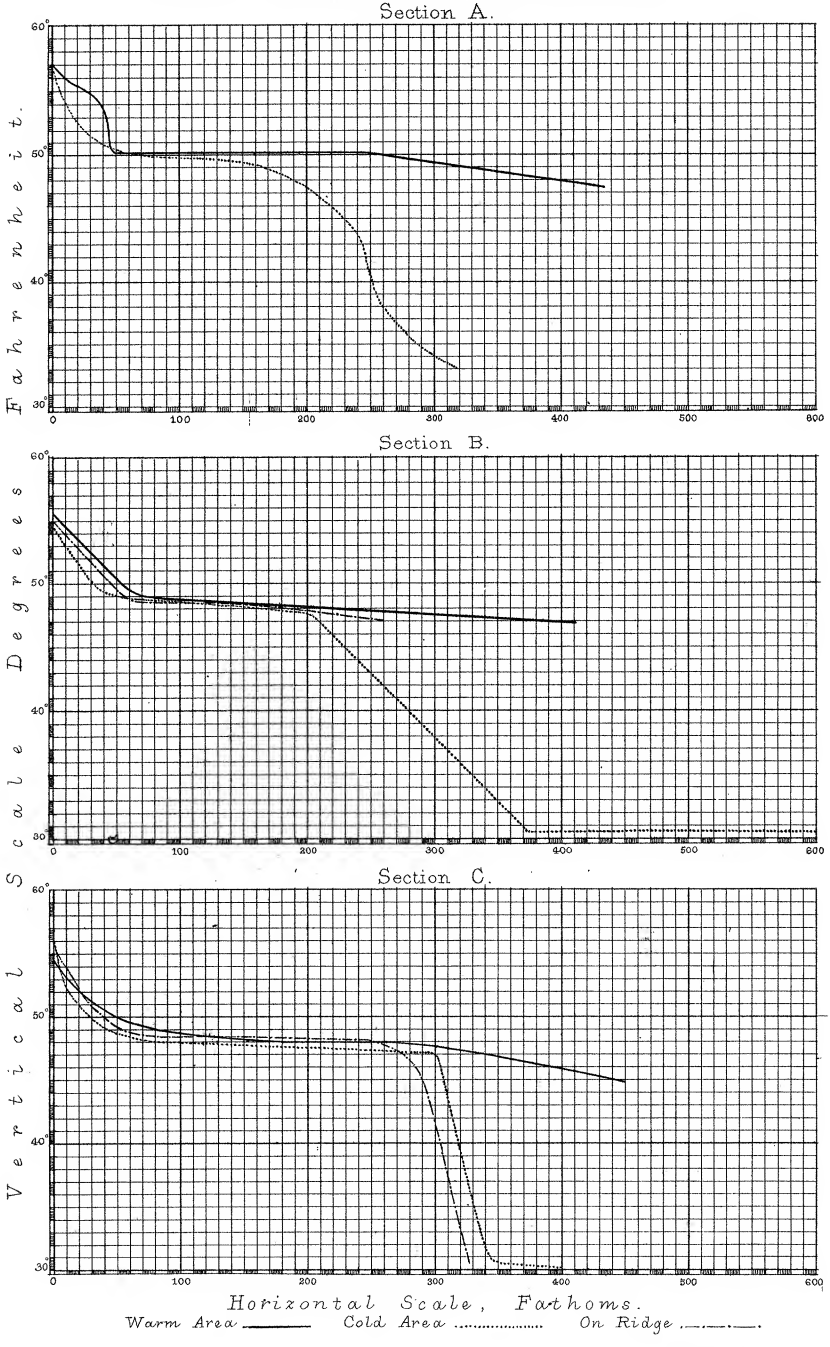
Section E.



Horizontal Scale — Miles.

West Newman & Co° sc.

H.M.S. TRITON SERIAL TEMPERATURE CURVES.
WYVILLE THOMSON RIDGE, FAEROE CHANNEL.



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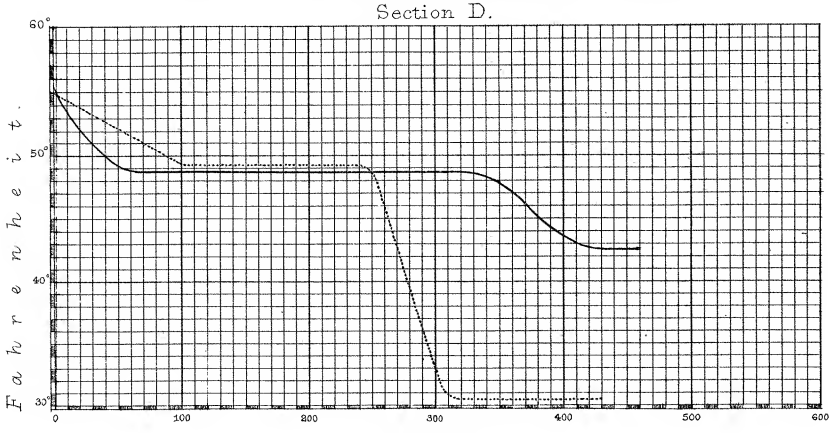
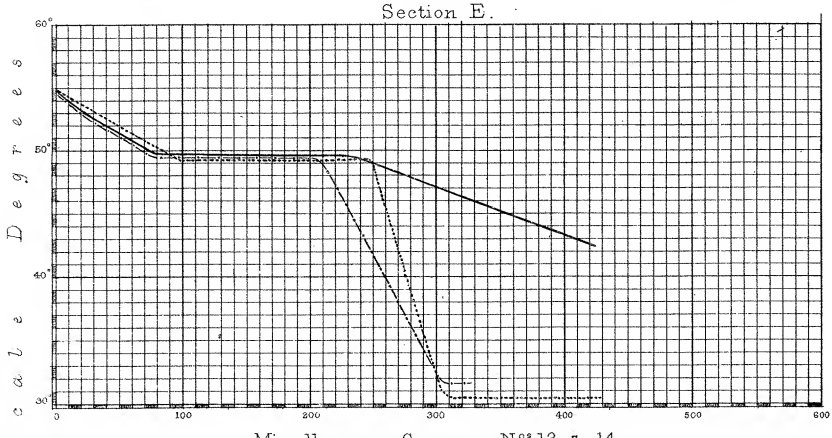
H.M.S. TRITON SERIAL TEMPERATURE CURVES.
WYVILLE THOMSON RIDGE FAEROE CHANNEL.

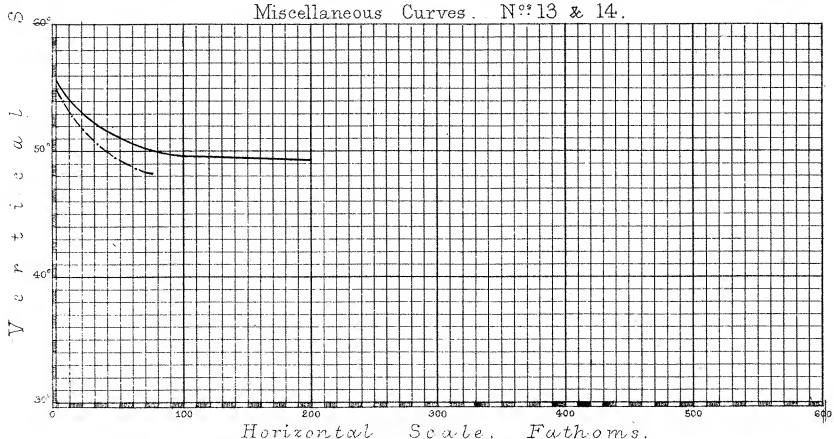
Section D.



Section E.



Miscellaneous Curves. N°: 13 & 14.



Horizontal Scale, Fathoms.

Warm Area ———— Cold Area ..... On Ridge .—.—.

West Newman & C° sc.

No. 11. No. of sounding 45. Section E, on the ridge.
Lat. 60° 22′ 40″ N. Long. 8° 21′ 0″ W.

Depth in fathoms.	Distinguishing mark of thermometer.	Reading.	Temperature by curve, diagram No. 5.
Surface	..	55°·0	55°·0
50	0·1	51·0	51·0
100	X	50·0	49·5
150	LV	48·8	49·5
200	VIII	50·0	49·5
220	80	47·5	47·5
240	I	41·8	44·3
260	XI	43·0	40·5
280	0·5	27·0	36·2
300	B	31·2	32·2
327	B	32·0	31·7
	0·5	31·5	

No. 12. No. of sounding 41. Section E. Warm area.
Lat. 60° 17′ 15″ N. Long. 8° 32′ 0″ W.

Depth in fathoms.	Distinguishing mark of thermometer.	Reading.	Temperature by curve, diagram No. 5.
Surface	..	55°·0	55°·0
50	I	51·2	51·0
100	XI	49·5	49·5
150	III	49·5	49·5
200	VIII	49·5	49·5
250	LV	49·2	49·0
300	0·5	46·0	47·0
350	B	45·2	45·2
423	B	42·5	42·0
	0·5	41·6	

No. 13. No. of sounding 1. Section —. Warm area.
Lat. 59° 34′ 30″ N. Long. 6° 36′ 30″ W.

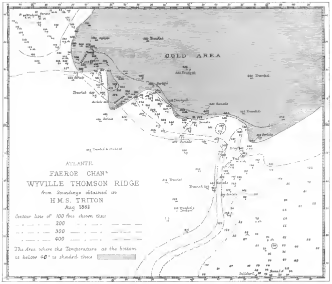
Depth in fathoms.	Distinguishing mark of thermometer.	Reading.	Temperature by curve, diagram No. 6.
Surface	LV	55°·5	55°·5
20	XI	53·0	53·0
40	VIII	51·5	51·5
60	83	50·8	50·6
80	0·6	50·0	50·0
100	A 8	Mercury broken	49·8
120	A 11	49·9	49·7
140	X	49·5	49·5
160	III	48·2	49·4
180	0·5	47·2	49·3
200	B	49·3	49·3
	0·5	49·3	

No. 14. No. of sounding 33. Section —. Warm area.
Lat. 60° 39′ 30″ N. Long. 8′ 55′ 45″ W.

Depth in fathoms.	Distinguishing mark of thermometer.	Reading.	Temperature by curve, diagram No. 6.
Surface	..	55°·0	55°·0
20	VIII	52·0	51·9
40	0·5	50·0	49·8
60	B	49·8	48·8
80	B	47·8	48·0
	0·5	48·0	

III. "Preliminary Note on the Innervation of the Mammalian Heart." By L. C. Wooldridge, D.Sc., M.B., George Henry Lewes Student. Communicated by Dr. M. Foster, Sec. R.S. Received April 23, 1883.

The research was carried out in the Physiological Institute at Leipzig. The immediate object was to determine the function of nerves which are to be seen on the surface of the ventricles of the hearts of mammals. It was important to know their functions on the following grounds:—

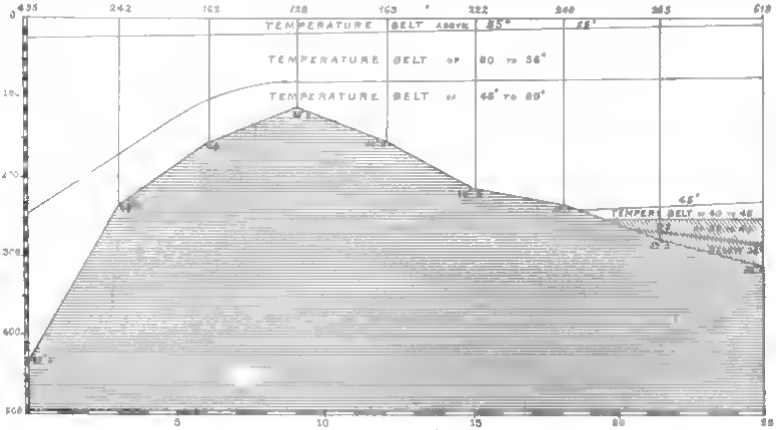

COLD AREA
ATLANTIC
FAEROE CHANL
WYVILLE THOMSON RIDGE
from Soundings obtained in
H.M.S. TRITON
Aug 1882
Contour line of 100 fms shown thus
200
300
400
The Area where the Temperature at the bottom is below 40° is shaded thus

[illegible] or WYVILLE THOMSON RIDGE FAEROE CHANNEL

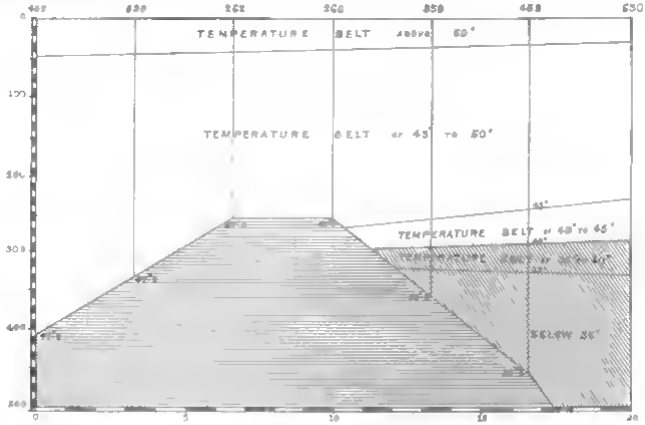
Obtained by H M S TRITON, August 1882.

showing the distribution of the temperature from the Surface to the Bottom

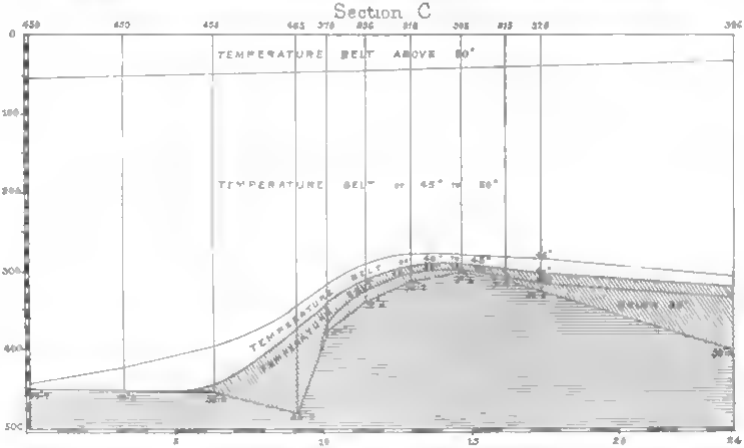
Section A



Section B



Section C



Vertical Scale Fathoms

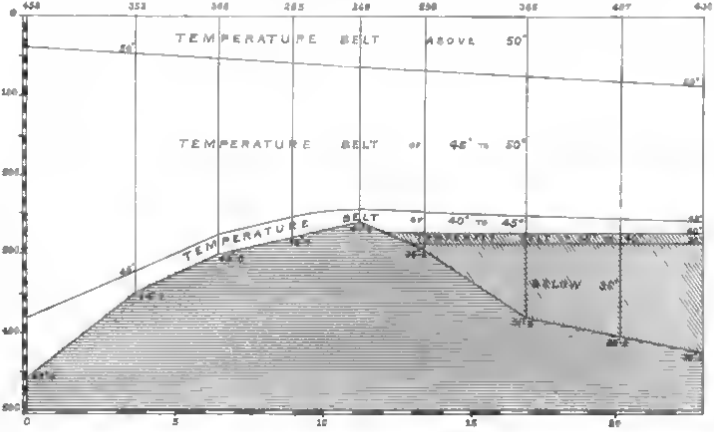
Each Horizontal Scale — Miles

SECTIONS of WYVILLE THOMSON RIDGE, FAEROE CHANNEL

Obtained by H M S TRITON, *August* 1882

showing the distribution of the temperature from the Surface to the Bottom

Section D



Section E.